

B. AMENDMENTS TO THE CLAIMS

1 - 66. Cancelled.

67. (New). An isolated recombinantly produced human papillomavirus (HPV) L1 protein or antigenic fragment thereof, in the absence of human papillomavirus L2 protein, wherein said L1 protein or fragment thereof includes conformational epitopes present on L1 protein on the surface of intact human papillomavirus virions.

68. (New). The protein or fragment of Claim 67 wherein said protein or fragment is an HPV L1 protein.

69. (New). The protein or fragment thereof of Claim 67 wherein said protein or fragment thereof is an antigenic fragment of an HPV L1 protein.

70. (New). The protein or fragment thereof of Claim 67 wherein said protein or fragment thereof binds to an antibody that binds to a conformational epitope of L1 protein of a human papillomavirus virion.

71. (New). The protein or fragment thereof of Claim 67 wherein said protein or fragment includes conformational neutralizing epitopes against said human papillomavirus that are capable of inducing neutralizing antibodies against human papillomavirus..

72. (New). The protein or fragment of Claim 67, wherein said protein or fragment binds to an antibody that binds to intact human papillomavirus and that does not bind to denatured or disrupted human papillomavirus.

73. (New). The protein or fragment of Claim 67, wherein said protein or fragment binds specifically to a conformational antibody that reacts with an L1 protein expressed on the surface of an intact HPV virion.

74. (New). The protein or fragment of Claim 67 wherein said HPV is HPV-16.

75. (New). The protein or fragment of Claim 67 wherein said HPV is HPV-18.
76. (New). A vaccine for the prevention of papillomavirus infection, said vaccine comprising at least one isolated recombinantly produced human papillomavirus L1 protein or antigenic fragment thereof, and said vaccine does not include HPV L2 protein, wherein said L1 protein or antigenic fragment thereof includes conformational epitopes present on L1 protein on the surface of intact human papillomavirus virions.
77. (New). The vaccine of Claim 76, and further comprising an immunogenic carrier.
78. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof is a human papillomavirus L1 protein.
79. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof is a fragment of a human papillomavirus L1 protein.
80. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof binds to an antibody that binds to a conformational epitope of L1 protein of a human papillomavirus virion.
81. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof includes conformational neutralizing epitopes against said human papillomavirus that are capable of inducing neutralizing antibodies against human papillomavirus.
82. (New). The vaccine of Claim 76 wherein said protein or fragment binds to an antibody that binds to intact human papillomavirus and does not bind to denatured or disrupted human papillomavirus.
83. (New). The vaccine of Claim 76 wherein said L1 protein or fragment binds specifically to a conformational antibody that reacts with an L1 protein expressed on the surface of an intact HPV virion.

84. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof is an L1 protein or fragment thereof of HPV-16.
85. (New). The vaccine of Claim 76 wherein said L1 protein or fragment thereof is an L1 protein or fragment thereof of HPV-18.
86. (New). An isolated recombinantly produced human papillomavirus (HPV) L1 protein or antigenic fragment thereof, in the absence of HPV L2 protein, wherein said protein or fragment thereof binds to antibodies which recognize conformational epitopes present on an intact human papillomavirus virion.
87. (New). The protein or fragment of Claim 86 wherein said human papillomavirus is HPV-16.
88. (New). The protein or fragment of Claim 86 wherein said human papillomavirus is HPV-18.
89. (New). A vaccine for the prevention of papillomavirus infection, said vaccine comprising an isolated recombinantly produced human papillomavirus (HPV) L1 protein or antigenic fragment thereof, in the absence of HPV L2 protein wherein said protein or fragment thereof binds to antibodies which recognize conformational epitopes present on an intact human papillomavirus virion.
90. (New). The vaccine of Claim 89 wherein said human papillomavirus is HPV-18.
91. (New). A method of protecting a human against a papillomavirus infection, said method comprising administering a therapeutically effective amount of a vaccine, wherein said vaccine comprises at least one isolated recombinantly produced human papillomavirus (HPV) L1 protein, and said vaccine does not include HPV L2 protein, wherein said L1 protein or fragment thereof includes conformational epitopes present on L1 protein on the surface of intact human papillomavirus virions.